

1    WHAT IS CLAIMED IS:

- 2    1. (Cancelled) An arrangement of a tool insertable into the mouth of a  
3       house for the care and maintenance of teeth while providing  
4       protection of soft tissue within the mouth of the horse and comprising  
5       in combination:  
6       an electric rotary motor having a means to hold said tool along the axis  
7       of rotation of said motor, said tool having a tooth cutting surface of  
8       a preselected size and shape;  
9       a shaft having one end mounted to said cutting surface and the other  
10      end attachable to said motor holding means thereby supplying  
11      rotational motion to said tool;  
12      a shaft support means through which said shaft may be removably  
13      inserted;  
14      a hand piece having a channel through which said shaft support means  
15      is removably insertable; and,  
16      a cutting surface guard fabricated as a portion of said hand piece and  
17      shaped to be in encircling relation about a selected portion of said  
18      cutting surface thereby exposing only a portion of said cutting  
19      surface under the condition of said shaft support means, having  
20      said shaft inserted therein, is mounted within said shaft support  
21      channel of said hand piece and said shaft engaged within said  
22      holding means thereby allowing a user of the arrangement to guide  
23      said hand piece containing the partially guarded tool into the  
24      mouth of the horse to separate said soft tissue from a preselected  
25      portion of a tooth with said cutting surface guard and position the  
26      unguarded portion of said cutting surface against a tooth to remove  
27      a selection portion of said tooth by means of said tool in rotary  
28      motion.

- 1       2. The arrangement defined in claim 1 wherein said shaft support
- 2       means further comprises a bearing mounted at a preselected position
- 3       within said shaft support means and a bearing seal mounted at a
- 4       position between said bearing and said cutting surface through which
- 5       said shaft may be inserted and supported for rotary motion without
- 6       binding.
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- 8       3. The arrangement defined in claim 2 further comprising a brass sleeve
- 9       mountable around said shaft under the condition of said shaft being
- 10      inserted through said bearing and bearing seal into said shaft
- 11      support means, said brass sleeve providing separation between said
- 12      shaft and said shaft support means.
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- 14      4. (Cancelled) The arrangement defined in claim 1 further comprising a
- 15      flexible shaft having one end adaptively mountable to said motor
- 16      thereby supplying rotational motion to said flexible shaft and the
- 17      other end having a means to hold said tool along the axis of rotation
- 18      of the flexible shaft thereby separating said motor from said tool so
- 19      that said motor may be supported at a position remote from said tool.
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- 21      5. (Cancelled) The arrangement defined in claim 1 further comprising
- 22      preselected sized and shaped extended guards mountable to said
- 23      cutting surface guard to provide additional separation between said
- 24      cutting surface and said soft tissue within the mouth of the horse.
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- 26      6. (Cancelled) The arrangement defined in claim 1 wherein said hand
- 27      piece further comprises an orifice formed near said cutting surface
- 28      and a second channel one end in communication with said orifice,
- 29      the other end adapted to be removably attachable to a vacuum source
- 30      whereby the dust and debris created by the removal of a selected

1 portion of a tooth may first enter said orifice and then said second  
2 channel to be sucked out of the mouth of the horse and deposited  
3 into said vacuum source.

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5 7. The arrangement in claim 2 wherein said shaft support means further  
6 comprises gearing means mounted within said shaft support means  
7 and in communication with said shaft to change the rotational  
8 motion of said shaft attached to said motor holding means into  
9 reciprocating motion which may be applied to said cutting surface  
10 mounted on said shaft remote from said gearing means.

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12 8. The arrangement in claim 2 wherein said shaft support means further  
13 comprises gearing means mounted within said shaft support means  
14 and in communication with said shaft to change the profile of the  
15 shaft by a preselected angle thereby increasing the range of  
16 placement of said cutting surface of said tool.

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18 9. (Cancelled) The arrangement in claim 4 wherein said adaptive  
19 mounting of said flexible shaft is to a motor owned by the user.

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21 10. (Cancelled) The arrangement in claim 4 wherein said means to hold  
22 said tool is a handle owned by the user, said flexible shaft having  
23 means to adaptively mount said handle on the end of said flexible  
24 shaft under the condition of said shaft mounted within said handle.

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26 11. (Cancelled) The arrangement in claim 4 further comprising a clutch  
27 mounted with one end in communication with said motor and  
28 another end remote from said motor in communicated with said  
29 flexible shaft thereby providing interruptible transmission of motion

1       from said motor to said cutting surface in communication with said  
2       flexible shaft.

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4       12. The arrangement in claim 11 wherein said clutch further comprises  
5       means to adjust the threshold of torque at which said motion is  
6       interrupted.

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8       13. The arrangement in claim 12 further comprising a clutch housing  
9       mountable to said motor thereby enclosing said clutch and having a  
10      mounting to retain one end of said flexible shaft in communication  
11      with said clutch, said clutch housing having an means for access by  
12      the user to the means to adjust the torque.

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14      14. (Cancelled) The arrangement in claim 1 wherein said hand piece and  
15      guard are fabricated from aluminum.

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17      15. (Cancelled) The arrangement in claim 14 wherein the exposed  
18      surfaces of said aluminum are anodized.

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20      16. An electric motor powered arrangement insertable into the mouth of  
21      a horse for the care and maintenance of equine teeth while providing  
22      protection of soft tissue within the mouth of the horse and  
23      comprising in combination:

24      a tool having a tooth material removal surface;

25      a shaft having a first end mounted to said tool and a second end  
26      attachable to said electric motor whereby said tooth material  
27      removal surface has a powered motion;

28      a hand piece fabricated with an internal shaft channel;

29      a bearing support sleeve;

- 1 at least one bearing mounted within said support sleeve at a  
2 preselected position whereby said bearing accepts the insertion of  
3 said shaft through said bearing thereby exposing the end of said  
4 shaft remote from said tooth removal surface, said bearing support  
5 sleeve mounted with said internal shaft channel whereby said  
6 exposed end of said shaft is attachable to said electric motor, said  
7 bearing providing support for said shaft under the condition of said  
8 tooth material removal surface tool being guided into contact with a  
9 preselected tooth and pressed against the tooth until a preselected  
10 portion of the tooth is removed while said tooth material removal  
11 surface is under powered motion;
- 12 a protective shield fabricated as part of said hand piece at a  
13 preselected position and shaped to expose a preselected portion of  
14 said tooth material removal surface of said tool retained within said  
15 hand piece, said exposed portion guided into contact with a  
16 preselected portion of the tooth whereby the remaining non-exposed  
17 surface is separated from other portions of the horses mouth  
18 including said soft tissue; and,
- 19 a sleeve mountable over said shaft within said shaft hand piece  
20 whereby said sleeve provides additional bearing means between said  
21 shaft and said hand piece without binding.
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- 23 17. The arrangement defined in claim 16 wherein said bearing support  
24 sleeve means further comprises a bearing mounted at a preselected  
25 position within said bearing support sleeve and a bearing seal  
26 mounted at a position between said bearing and said cutting surface  
27 through which said shaft may be inserted and supported for rotary  
28 motion without binding.

- 1        18. The arrangement defined in claim 16 further comprising a flexible  
2              shaft having one end adaptively mountable to said motor thereby  
3              supplying rotational motion to said flexible shaft and the other end  
4              having a means to hold said tool along the axis of rotation of the  
5              flexible shaft thereby separating said motor from said tool so that  
6              said motor may be supported at a position remote from said tool.  
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- 8        19. The arrangement defined in claim 16 further comprising preselected  
9              sized and shaped extended guards mountable to said cutting  
10             surface guard to provide additional separation between said cutting  
11             surface and said soft tissue within the mouth of the horse.  
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- 13      20. The arrangement defined in claim 19 wherein said extended guard  
14              further comprises an orifice formed near said cutting surface and a  
15              vacuum channel one end of which is in communication with said  
16              orifice, the other end of said vacuum channel adapted to be  
17              removably attachable to a vacuum source whereby the dust and  
18              debris created by the removal of a selected portion of a tooth may  
19              first enter said orifice and then said channel to be sucked out of the  
20              mouth of the horse and deposited into said vacuum source.  
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- 22      21. The arrangement in claim 16 wherein said bearing support sleeve  
23              further comprises gearing means mounted within said bearing  
24              support sleeve and in communication with said shaft to change the  
25              rotational motion of said shaft attached to said motor holding means  
26              into reciprocating motion which may be applied to said cutting  
27              surface mounted on said shaft remote from said gearing means.  
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- 29      22. The arrangement in claim 16 wherein said bearing support sleeve  
30              further comprises gearing means mounted within said bearing

1 support sleeve and in communication with said shaft to change the  
2 profile of the shaft by a preselected angle thereby increasing the  
3 range of placement of said cutting surface of said tool.

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5 23. The arrangement in claim 18 wherein said adaptive mounting of  
6 said flexible shaft is to a motor owned by the user.

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8 24. The arrangement in claim 18 wherein said means to hold said tool is  
9 a handle owned by the user, said flexible shaft having means to  
10 adaptively mount said handle on the end of said flexible shaft under  
11 the condition of said shaft mounted within said handle.

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13 25. The arrangement in claim 18 further comprising a clutch mounted  
14 with one end in communication with said motor and another end  
15 remote from said motor in communicated with said flexible shaft  
16 thereby providing interruptible transmission of motion from said  
17 motor to said cutting surface in communication with said flexible  
18 shaft.

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20 26. The arrangement in claim 25 wherein said clutch further comprises  
21 means to adjust the threshold of torque at which said motion is  
22 interrupted.

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24 27. The arrangement in claim 26 further comprising a clutch housing  
25 mountable to said motor thereby enclosing said clutch and having a  
26 mounting to retain one end of said flexible shaft in communication  
27 with said clutch, said clutch housing having an means for access by  
28 the user to the means to adjust the torque.

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- 1    28. The arrangement in claim 16 wherein said hand piece and guard are  
2        fabricated from aluminum.  
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4    29. The arrangement in claim 28 wherein the exposed surfaces of said  
5        aluminum are anodized.